ABSTRACT

Title: Role of transition zone index in assessing bladder outflow obstruction due to benign prostatic hyperplasia

Introduction and Aim: Benign prostatic hyperplasia is a pathological process which contributes to, but is not the sole cause of lower urinary tract symptoms. The aim of our study was to evaluate the role of transition zone index in assessing bladder outflow obstruction due to benign prostatic hyperplasia. The secondary objective was to determine correlation of transition zone index with IPSS score, Abrams-Griffith number and urinary flow rates.

Materials and methods: A prospective study of 50 men with lower urinary tract symptoms due to benign prostatic hyperplasia was done between August 2011 and February 2012.The IPSS score, peak flow rate ,residual urine and pressure flow studies was estimated. All patients underwent transrectal ultrasound of prostate with calculation of prostate and transition zone volume. The transition zone index was computed as TZV/TPV.

Results: The mean age of patients was 63.78 years and mean IPSS score was 14.98. There were 22 patients in the obstructed group (AG> 40) and 28 patients had an AG number </= 40. The mean prostate volume and transition zone volume in the obstructed group was 45.46 ml and 26.4 ml and in the non obstructed group was 28.35 ml and 11.7 ml respectively. The transition zone index values were statistically significant between the two groups (0.58 vs 0.41, pvalue <0.0001). The IPSS, residual urine volume, peak flow rates, AG number and serum PSA had strong correlations with the transition zone index(r=0.7). A TZ index value of greater than 0.45, correlated strongly with AG number>40(p-value<0.001) and had 100% sensitivity, 75%specificity,76%positive predictive value for diagnosing bladder outlet obstruction.

Conclusion: Transition zone index is a good non invasive tool to assess bladder outlet obstruction in men with BPH. Using a Transition Zone index cut off of > 0.45, can identify outlet obstruction with 100% sensitivity, 75% specificity and 76% positive predictive value.

Key words: Benign prostatic hyperplasia, Bladder outlet obstruction, prostate volume, transition zone index.